

# **NEBULIZED MAGNESIUM SULFATE VERSUS HYPERTONIC SALINE IN ACUTE BRONCHIOLITIS : A RANDOMIZED CONTROL TRIAL**

## **INTRODUCTION :**

Acute bronchiolitis is the most common and severe lower respiratory tract illness requiring hospitalization in children less than 2 years of age. Several therapeutic modalities have been proposed for the management of bronchiolitis. But none of them have been recommended for the management of bronchiolitis other than the supportive management. Hence this study aims to study the efficacy of nebulized magnesium sulfate in acute bronchiolitis.

## **METHODOLOGY :**

In this single blinded randomized control trial conducted in a tertiary care centre between the study period January 2017- September 2017, 220 children of mild to moderate bronchiolitis were included. They were randomly divided into 2 groups to receive nebulized hypertonic saline and magnesium sulfate. Heart rate, respiratory rate, oxygen saturation and Respiratory Distress Assessment Instrument (RDAI ) score were monitored throughout the study. Results were analysed statistically.

## **RESULTS :**

The mean age in the hypertonic saline group was  $6.9 \pm 3$  months and in the magnesium sulfate group was  $7.1 \pm 3.1$  months. The mean hospital stay among the children nebulized with hypertonic saline and magnesium sulfate was  $3.2 + 1.0$  days and  $3.2 + 1.1$  days respectively. There was no significant difference in the RDAI score between the children treated with hypertonic saline and magnesium sulfate with p value of  $> 0.05$ .

## **CONCLUSION :**

The outcome in terms of duration of hospital stay and RDAI score do not vary significantly between the children treated with nebulized magnesium sulfate and hypertonic saline. Further trials with large sample size, inclusion of children with severe bronchiolitis and assessment of long term outcomes are recommended.

**KEYWORDS :** Bronchiolitis, magnesium sulfate, RDAI score, hypertonic saline